Pest Alert

United States
Department of
Agriculture

Forest Service

Northeastern Area

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Sphaeropsis Collar Rot of Red and Jack Pines

Sphaeropsis collar rot has been detected in red and jack pines in Wisconsin and Michigan, and it could be affecting pines in other states. This disease may be less familiar than Sphaeropsis shoot blight, but both the incidence and the distribution of collar rot appear to be increasing.

Collar rot caused by the fungus Sphaeropsis sapinea (syn. Diplodia pinea) results in the sudden death of trees during summer. Recently planted seedlings, naturally occuring seedlings, and established saplings may be killed. Persistence of the pathogen on or in asymptomatic trees may facilitate rapid disease development during moderate to severe water stress.

Symptoms include brown or blue-to-black discoloration of inner bark and wood in the lower stem or root collar, in addition to rapid browning of foliage. Symptoms may not be distinguishable from those of other stem and root fungi and insects. Diagnosis requires recognition of Sphaeropsis sapinea fruiting bodies or culture of the pathogen from affected stems or root collars.

Foliage of an established red pine saping browns rapidly as it is killed by Sphaeropsis collar rot (photograph by Allen Prey).

Dissection reveals discolored inner bark and wood of an established sapling (left) and a recently planted seedling (right) killed by Sphaeropsis collar rot.

In this magnified image, fruiting bodies of Sphaeropsis sapinea can be seen emerging through bark on the lower stem and root collar. Each black, flask-shaped fruiting body is less than 1 millimeter in diameter.

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